COSC 344
Lab for Week 11

Overview

The purpose of this lab is to become familiar with the Oracle security, privileges and roles.

Introduction

For this lab, an additional Oracle username has been set up. You access it with your normal Oracle username, but add a 1 (one) at the end. The password is initially set to cs followed by your student id. You can change it by typing at the SQL prompt:

ALTER USER *username* IDENTIFIED BY *password*;

For this lab to be successful, you must be careful to use the correct Oracle username when doing the exercises below.

Set Up

Open two terminals windows. Place them side by side on the screen. If you want to work in a subdirectory, cd to it on both terminal windows.

In the left window, copy the file /coursework/344/pickup/oracle-sql/security.sql to your current directory. This file has code to create an *emp* and *dept* tables which are simpler versions of the *employee* and *department* tables which we have used during the semester. The relations are shown below.

```
EMP (fname, lname, ssn, salary, dno)

DEPT (dname, dnumber)
```

The data is the same except some salaries have been changed.

In the left window, type *sqlplus* and respond with your normal Oracle username. From now on, I will refer to this window as *you*.

In the right window, type *sqlplus* and respond with your Oracle username followed by a 1.   From now on, I will refer to this window as *your friend*.

Load New Tables

In the left window, type *@security* to create the tables and load the data.

For each step below, work out the appropriate SQL statements on your own.

You will be alternating between doing work as *you* (left window) and as *your friend* (right window). Alternatively, you can pair up with a real friend and work together. Just decide which of you will be *you* and which will be *the friend*. ☺

PART	YOU	YOUR FRIEND	COMMENTS
1	Grant your friend privilege to SELECT data from the *emp* table.		
		Test that you can SELECT data from *emp*.	NOTE-You must now preceed the table names with the username. For example, SELECT * FROM werstein.emp;
2	Let your friend update *dname* in *dept*.		
		Test that you can update the department name. Test to make sure you cannot update *dnumber* or anything in the *emp* table.	
3	Deny your friend access to the *emp* and *dept* tables.		
		Test that you can no longer access the tables.	
4	Create a role allowing anyone with the role to select data from the *emp* and *dept* tables. Then grant the role to your friend.		
		Test that you can SELECT from the *emp* and *dept* tables.	NOTE-Before you can do this, you must exit SQL and then type *sqlplus* and log into oracle as your friend again. Roles are assigned upon login and are not dynamic.
5	Figure out a way to let your friend easily see the names of employees and the name of their department. Implement it.		HINT-Think about views.
		Test that your solution works.	
6	Figure out a way to let your friend to see the names of the employees and their salaries, but only if the employee makes no more than 50,000.		
		Test that your solution works.	

Assessment: 12 marks, due at 5pm on May 27

Write down the SQL statement of each part for both you and your friend in a .txt or .pdf file and submit it in Blackboard.